

Exercises - Problems Sheet # 5: Pointers
Spring 2024

No. Of Questions: 2

No. Of Pages: 1

Answer the following (using pointer/offset notation):

1) Write a C program that asks the user to enter 10 integers in an array. The program will then display (based on the entered numbers) one of the following messages:

- "the numbers in the array are increasing",
- "the numbers in the array are decreasing",
- "the numbers in the array are not changing", or
- "the numbers in the array are increasing and then decreasing."

2) Trace the following:

A)

```
int main(void)
{
    char ch = 'c';
    char *chptr = &ch;
    int i = 20;
    int *intptr = &i;
    float f = 1.20000;
    float *fptr = &f;
    char *ptr = "I am a string";
    printf("\n [%c], [%d], [%f], [%c], [%s]\n",
    *chptr, *intptr, *fptr, *ptr, ptr);
    return 0;
}
```

B)

```
int main()
{
    int array[10] = { 2, 5, 9, 0, 3, 7, 2};
    int *data_ptr;
    int value;
    data_ptr = &array[0];
    value = *data_ptr++;
    printf("%d\n", value);
    value = *++data_ptr;
    printf("%d\n", value);
    value = ++*data_ptr;
    printf("%d\n", value);
    value = *data_ptr;
    printf("%d\n", value);
}
```

With our best wishes;